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April 24, 2000

Lauren C. Buehler, Esq.  
United States EPA, Region 8  
Ref: 8ENF-L  
999 18th Street, Suite 500  
Denver, Colorado 80202-2466

Re: Hecla Mining Company, Docket No. RCRA-8-99-06

Dear Ms. Buehler:

Enclosed is information submitted in response to your letter of March 28, 2000, on behalf of Hecla Mining Company. We understand that your follow-up requests relate to EPA's prior information request letter of January 11, 1999. If you should have any further questions concerning these additional responses to EPA's follow-up questions, please contact me at this office.

We also understand from your last phone communication concerning this matter that EPA will be providing Hecla with a draft form of administrative order on consent under the Agency's RCRA Section 7003 authority. We look forward to that draft language and to your Agency's comments on sampling an analysis plans submitted to EPA by Hecla earlier this year.

Very truly yours,

John R. Jacus

for

Davis, Graham & Stubbs LLP  
Attorneys for Hecla Mining Company

JRJ/cw

Enclosures

cc: (w/out enc.) John N. Galbavy, Esq.

The following information is in response to a series of questions requested by EPA in a letter dated March 28, 2000 from Lauren C. Buehler. RE: Hecla Mining Company Docket No. RCRA-8-99-06.

#### **Information Request No. 1**

At the time of Saint George Mining Company shutdown, several drums of waste material were on site. All of the material referenced in previously submitted Attachment D consisted of either historic waste or new waste that was shipped offsite to U.S. Ecology at Beatty, Nevada or Aptus at Aragmite, Utah for disposal as indicated by the previously submitted information. Shipments included WGC-3G and WGC-43 according to Hecla's records.

Wastes on site were characterized and those drums, not knowing their origin, were shipped off to an EPA approved disposal site. Manifests for the wastes shipped for disposal were previously submitted. Details of the waste volumes can be obtained from the manifests.

#### **Information Request No. 2**

- A. At the copper process a mixture of oil (kerosene) and water is needed to create the affinity.
- B. In the gallium process a mixture of kerosene type oil with 10% DEPHA and 57% TBP was used. The TBP is used to keep DEPHA soluble in the organic. (See response 3 for abbreviations).
- C. Four extraction stages are used because the extraction process was not 100% complete with just one stage. The same reagents are utilized in the later extraction stages.
- D. The gallium raffinate is clarified and contacted four times with organic (kerosene type) that contains 25% Lix63 and 5% DEPHA to start the germanium affinity process.

See Attachment A for further detail and glossary of terms.

### Information Request No. 3

As in Hecla's previous response, the amount of information we have on the cobalt process is extremely limited and it has been previously submitted. However, below are the most common chemicals used in the earlier processes as well as ore minerals anticipated.

<u>Chemical</u>	<u>Formula/Name</u>
Sulfuric Acid	H <sub>2</sub> SO <sub>4</sub>
Sulphur Dioxide	SO <sub>2</sub>
Ammonia (Anhydrous Ammonia)	NH <sub>3</sub>
Caustic Soda (Sodium Hydroxide)	NaOH
Hydrochloric Acid	HCl
Sulfur	S
Oxygen	O
Copper	Cu
Gallium	Ga
Germanium	Ge
Iron	Fe
Arsenic	As
Methyl Isobutyl Ketone	MIBK
Di 2 ethylhexyl phosphoric acid	DEHPA
Tributyl Phosphate	TBP

In reference to previously submitted Attachment L, the following items should be noted. First of all, admittedly, the attachment talks about Russian cobalt feed stock and it refers to "dissolution difficulties (that) have recently been encountered by some domestic cobalt sulfate producers with Russian cobalt ingots". Based on conversations with previous employees at Apex, there is no indication that Russian cobalt ingots were ever acquired. This portion of the Attachment was derived from a pre-production business plan for cobalt production. The remainder of the plan deals with finances, marketing, feed stock supply, production and other general topics related to the cobalt market.

#### **Information Request No. 4**

See Attachment A to support previously submitted Attachment Q.

#### **Information Request No. 5**

Based on discussions with previous Hecla employees at Apex, the burn pit was discontinued shortly after Hecla acquired the property. The company has no information regarding the material burned by the St. George Mining Company. We have nothing to indicate anything other than normal office and plant cardboard, paper and wood were burned.

#### **Information Request No. 6**

Once the property was sold to OMG-Apex, Hecla had no need for septic tank or drain field information. Consequently, no maps or other data were specifically retained or located in any of the existing files beyond what has been previously provided

#### **Information Request No. 7**

The report done by Kleinfelder covering the pre-sale sampling is included in Attachment B. Additional sample results are included in Attachment D which includes a follow-up report by Ms. Bassett (see Attachment E).

Once the cleanup was completed, no additional samples that we know of were taken except the ones listed above and the split with the EPA in November 1998. The 1998 samples were submitted to EPA and Hecla is still waiting to receive the analysis from the EPA split that was promised.

### Information Request No. 8

Information requested in Question 15 in the EPA letter of June 1, 1999 has been previously provided either verbally in November 1998 (see Linda Jacobson's notes) or from Hecla's office. Supplement comments are listed below:

- Pond construction details -- see Attachment 8 in response to the June 1, 1999 request. All of the reconditioned ponds were double lined. Leak detection equipment was also installed in the reclined ponds.
- Who constructed the ponds -- Hecla's predecessor constructed the ponds. Hecla began transferring material from some of the existing ponds to pond 2 during the normal operations. All of the other existing pond material was transferred to pond 2 prior to completion of the sale. Pond liner installation was contracted out to companies such as Southwest Stone. Hecla had ponds 1A/B and 3A relined in 1989 and later relined pond 2A in 1996.
- Pond maintenance -- see Attachment 8 in response to the EPA letter of June 1, 1999. In addition, tests were conducted on the integrity of the liner. Leak detection equipment was also installed between the pond liners. Ponds were checked for any damage and if any occurred, the Serrot Corporation was contracted to do the repair.
- Debris and sediment removal -- Liquids were pumped in a slurry line to pond 2 and the solids were transported by truck. The material moved to pond 2 was predominantly from the gallium/germanium process, but some waste from the cobalt process would have also been included in the sludge transferred. Approximately 30,600 cubic yards were transferred from ponds 1A/B, 17,000 cubic yards from pond 3A and 4,153 cubic yards of solid material cleaned up from the plant area yard. (see Attachment C)

Even though material in the ponds to be cleaned was initially measured, most of the liquid, where it was possible, had evaporated and only the solids were needed to be transferred.

- Pipelines – were used to slurry the material during the cleanup to pond 2 and then removed. Other pipelines connect the pond with the plant.
- Material used in pond liners – is described in Attachment 8; previously submitted.
- When the liner was installed – Pond liners were installed in pond 2A in 1996 and, pond 1A/B and pond 3A in 1989.
- Discharges – A break in the slurry pipeline did occur as material was pumped from pond 3A to pond 2 and the resulting spill was cleaned up along with any contaminated soil and placed in pond 2.
- Backup ponds – Ponds were not designated as primary and backup. When one was filled, discharge valves were simply switched from one pond to another to allow time for liquids to evaporate.